DRAINAGE SYSTEM OPERATIONS & MAINTENANCE PLAN

STORM WATER COLLECTION SYSTEM:

THE STORMWATER COLLECTION SYSTEM SERVING THIS SITE IS INTENDED TO BOTH COLLECT STORM WATER RUNOFF AND TO PROVIDE PARTIAL TREATMENT OF THE STORMWATER PRIOR TO ITS RELEASE INTO THE RAIN GARDENS WHICH THEN EITHER RECHARGES INTO THE GROUNDWATER OR FLOWS OVERLAND IN GRASS SWALES TO THE EXISTING WETLANDS. THIS SYSTEM COLLECTS RUNOFF GENERATED FROM THE SITE THROUGH THE USE OF GRASS SWALES AND RAIN GARDENS. WHEN THESE TWO BASIC CONTROL MECHANISMS ARE FUNCTIONING PROPERLY THEY PROVIDE FOR A REDUCTION OF CONTAMINANTS AND DEBRIS ENTERING THE STORMWATER COLLECTION AND RECHARGE SYSTEMS, AND THEREFORE DOWNSTREAM RECEIVING WATERS/WETLANDS.

THIS SITE IS SERVED BY A ROOF RECHARGE SYSTEM WHICH COLLECTS THE GENERATED RUNOFF AND RECHARGES IT TO THE GROUND, THUS PROVIDING RECHARGE SIMILAR TO THAT OF THE PRE-DEVELOPMENT CONDITION AND FILTERING THE RUNOFF AS IT TRAVELS THROUGH THE EXISTING SOILS TO THE GROUNDWATER TABLE.

BOTH OF THE ABOVE DESCRIBED SYSTEMS RELY UPON PROPER MONITORING, OPERATIONS AND MAINTENANCE TO FUNCTION AS DESIGNED AND INTENDED. A PROGRAM OF MONITORING, OPERATIONS AND MAINTENANCE MUST BE ONGOING THROUGHOUT THE LIFE AND USE OF THE SITE, AND IS THE OWNER'S RESPONSIBILITY SOLELY. THESE ACTIVITIES, AS DESCRIBED BELOW, ARE TO BE INITIATED AFTER COMPLETION OF THE PROJECT AND ARE NOT RELATED TO THE CONSTRUCTION OF THE SITE, EXCEPT AS SPECIFICALLY PROVIDED. THIS PLAN IS SPECIFICALLY FOR SITE-RELATED ACTIVITIES, NOT ACTIVITIES WHICH ARE INTERIOR TO BUILDINGS, THOUGH THERE ARE NECESSARY IMPLICATIONS AND CORRELATIONS BETWEEN THE TWO.

MONITORING:

THE DRAINAGE SYSTEMS ARE REQUIRED TO BE MONITORED BY THE GROTON ELECTRIC LIGHT DEPARTMENT (GELD) SUPERINTENDENT WHO SHALL DIRECT AN INDIVIDUAL TO ACT AS THE SYSTEM'S MANAGER. THE NAME, ADDRESS AND DAY AND NIGHT (OR EMERGENCY) TELEPHONE NUMBER OF THIS PERSON OR ENTITY SHALL BE PROVIDED TO THE GROTON EARTH REMOVAL STORMWATER INSPECTOR, GROTON ENGINEERING DEPARTMENT AND THE GROTON CONSERVATION COMMISSION PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE FOR THE CONSTRUCTION ON THE SITE.

THE SYSTEM'S MANAGER SHALL BE REQUIRED TO KEEP A LOG OF ALL REQUIRED INSPECTIONS, OBSERVATIONS AND MAINTENANCE ACTIVITIES. DRAINAGE SYSTEM COMPONENTS SHALL BE REFERRED TO BY SPECIFIC LOCATION OR THE DESIGN PLAN DESIGNATION, (E.G. CTB # 10) TO AVOID CONFUSION OR MISIDENTIFICATION. THE LOGS/REPORTS SHALL BE KEPT AT GELD AND SHALL BE MADE AVAILABLE TO THE GROTON EARTH REMOVAL STORMWATER INSPECTOR, GROTON ENGINEERING DEPARTMENT OR CONSERVATION COMMISSION WITHIN TEN (10) DAYS OF A WRITTEN REQUEST.

MONITORING FOR THIS SITE SHALL CONSIST OF THE FOLLOWING:

1. QUARTERLY MONITORING (3 MONTH INTERVALS):
   A. ALL DRAINAGE STRUCTURES, INCLUDING DRAIN MANHOLES, INSPECTION PORTS TO THE RECHARGE SYSTEM AND THE FLOOR DRAIN SYSTEM, SHALL BE INSPECTED TO ENSURE THAT THEY ARE WATER TIGHT, ALL HAVE GRATES AND FRAMES THAT ARE FREE FROM STRUCTURAL DAMAGE.
   B. THE INSPECTION PORTS FOR THE RECHARGE SYSTEM SHALL ALSO BE INSPECTED WITHIN 3 DAYS OF A RAINFALL EVENT, TO ASSURE THAT THE STORMWATER HAS FULLY RECHARGED AND THAT THE RECHARGE CAPACITY IS MAINTAINED.
   C. THE FLOOR DRAIN SYSTEM SHALL BE INSPECTED AND ALARMS TESTED UNLESS THE TANK HAS BEEN EMPTIED WITHIN THE PREVIOUS 3 MONTHS; SYSTEM SHALL BE VISUALLY CHECKED EACH TIME THE HOLDING TANK IS EMPTIED.
   D. THE ROOF RECHARGE SYSTEM IS CRITICAL TO THE DRAINAGE DESIGN ON THE SITE. GUTTERS SHALL BE MAINTAINED AND INSPECTED QUARTERLY AT A MINIMUM AND WEEKLY DURING THE FALL SEASON OR AFTER A HEAVY WIND STORM WHEN THE POTENTIAL IS HIGHEST FOR DEBRIS ACCUMULATION. INSPECTION PORTS SHALL BE MONITORED TO ASSURE THAT THE SYSTEM DRAINS WITHIN 72 HOURS OF A STORM EVENT.
2. SEMI- ANNUAL MONITORING (6 MONTH INTERVALS):
   A. ALL OTHER COMPONENTS OF THE DRAINAGE SYSTEM, INCLUDING WATER QUALITY INLETS, GRASS SWALES, RAIN GARDENS AND OUTFALLS SHALL BE INSPECTED FOR SEDIMENTATION, EROSION AND TO ASSURE THAT NO DAMAGE HAS OCCURRED AS A RESULT OF SITE MAINTENANCE OR ACTIVITIES. IT IS RECOMMENDED THAT THESE INSPECTIONS COINCIDE WITH THE SPRING AND FALL CLEANUPS OF THE SITE.
   B. ANY INVASIVE PLANT SPECIES SHALL BE REMOVED FROM THE SWALES AND RAIN GARDENS. SPECIES OF PARTICULAR CONCERN INCLUDE MULTIFLORA ROSES, BITTERSWEET, HONEYSUCKLE, JAPANESE KNOTWEED AND PHRAGMITES WHICH ARE PRESENT IN ADJACENT WETLANDS AREAS. SEE INVASIVE SPECIES CONTROL PLAN.
3. MAINTENANCE LOG:
   THE LOG SHALL BE MAINTAINED BY THE SYSTEM'S MANAGER AND SHALL BE IN GELD. THE LOG SHALL CONTAIN THE FOLLOWING INFORMATION:
   1. PERSON PERFORMING THE ACTIVITY
   2. DATE OF THE ACTIVITY AND WEATHER CONDITIONS
   3. PRECEDING WEATHER CONDITIONS.
   4. SITE (DRY, HEAVY SNOW COVER, SATURATED CONDITIONS, ETC.)
   5. THE SPECIFIC ACTIVITY (INSPECTION, CLEANING, REPAIR, ETC.)
   6. THE STRUCTURES/COMPONENTS INSPECTED, REFERRING TO SPECIFIC LOCATION ON THE DESIGN PLAN TO AVOID CONFUSION OR MISIDENTIFICATION.
   7. THE CONDITION OF THE STRUCTURE/COMPONENT
   8. THE RESULTS OF THE ACTIVITY AND ANY REMEDIAL ACTION TAKEN.

OPPERATIONS:

1. GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF. A POLLUTION PREVENTION PLAN SHALL BE DEVELOPED WHICH SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
   A. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
   B. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
   C. SUBSTANCES SHOULD NOT BE MIXED WITH ONE ANOTHER, UNLESS RECOMMENDED BY THE MANUFACTURER.
   D. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF A CONTAINER.
   E. THE SYSTEM'S MANAGER SHALL INSPECT THE SITE DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON SITE, DURING ALL CONSTRUCTION PHASES.
   F. ORIGINAL MATERIALS LABELS AND MATERIAL SAFETY DATA SHEETS SHALL BE KEPT; THEY RETAIN IMPORTANT INFORMATION.
   G. PETROLEUM PRODUCTS:
      1) ALL ONSITE VEHICLES AND PARKING AREAS SHALL BE REGULARLY MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO PREVENT LEAKAGE.
      2) PETROLEUM PRODUCTS SHALL BE STORED UNDER COVER AND SHALL BE IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.
   H. FERTILIZERS:
      1) FERTILIZERS SHALL ONLY BE USED IN THE MINIMUM AMOUNTS AS RECOMMENDED BY THE MANUFACTURER.
      2) THE CONTENTS OF ANY UNUSED FERTILIZER SHALL BE TRANSFERRED TO A CLEARLY LABELED, SEALABLE PLASTIC BIN, TO AVOID SPILLAGE.
   I. PAINTS, SOLVENTS.
      1) ALL PAINTS AND SOLVENTS SHALL BE STORED IN ORIGINAL MANUFACTURER'S CONTAINERS IN A COVERED LOCATION.
      2) THE USE OF PAINTS AND SOLVENTS SHALL, WHENEVER POSSIBLE, BE LIMITED TO SERVICE OR STORAGE BAYS AND NOT IN PARKING OR ACCESS WAYS THAT ARE TRIBUTARY TO THE DRAINAGE SYSTEM.
2. SPILL CONTROL PRACTICES:
   A. MANUFACTURER'S RECOMMENDED METHODS SHALL BE CLEARLY POSTED FOR SPILL CLEANUP AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF CLEANUP INFORMATION AND SUPPLIES.
   B. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT ON SITE IN A DESIGNATED MATERIAL STORAGE AREA. EQUIPMENT INCLUDES, BUT NOT LIMITED TO, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, ABSORBENT MATERIALS, SAND, SAWDUST AND PLASTIC & METAL TRASH CONTAINERS SPECIFICALLY KEPT AND LABELED FOR THIS PURPOSE.
   C. ALL SPILLS SHALL BE CLEANED-UP IMMEDIATELY AFTER DISCOVERY.
   D. SPILLS OF TOXIC OR HAZARDOUS MATERIAL OR NATURE SHALL BE REPORTED TO THE APPROPRIATE STATE, LOCAL OR FEDERAL AGENCY, AS REQUIRED BY-LAW.
   E. THE POLLUTION PREVENTION PLAN SHALL INCLUDE PROVISIONS TO ADAPT THE PLAN TO ENSURE THAT SPILLS WILL NOT REOCCUR, AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE.
3. SITE OPERATIONS AND DAILY USE SHALL CONSIDER THE ULTIMATE DISPOSITION OF STORMWATER AND OTHER SITE-GENERATED FORMS OF RUNOFF. THE WASHING OF VEHICLES SHALL BE LIMITED TO AREAS WITHIN THE BUILDING, AS THEY ARE SERVED BY THE FLOOR DRAIN SYSTEM. WASH WATER WITH ITS COMBINATION OF SOLVENTS, DETERGENTS AND OIL/GREASES SHOULD NOT BE ALLOWED TO ENTER ANY PART OF THE ON-SITE DRAINAGE SYSTEM.
4. SNOW PLOWING – SNOW PLOWING OPERATIONS SHALL STOCKPILE SNOW, ICE AND ACCUMULATED MATERIALS IN AREAS WHERE SNOW MELT WILL FLOW INTO THE ON-SITE DRAINAGE SYSTEMS, INCLUDING DRAINAGE BASINS. NO PLOWING OR STORAGE OF SNOW INTO RAIN GARDENS, WETLANDS OR AREAS DRAINING DIRECTLY TO WETLANDS.
5. THE USE OF SODIUM CHLORIDE (SALT) SHALL BE PROHIBITED. OTHER ENVIRONMENTALLY SAFE DE-ICING PRODUCTS SHALL BE UTILIZED TO THE MINIMUM EXTENT POSSIBLE TO MAINTAIN SAFE CONDITIONS. ANY DE-ICING MATERIALS SHALL BE STORED UNDER COVER OR IN THE GARAGE AREAS.

MAINTENANCE:

1. STREET SWEEPING: PARKING AREAS, DRIVEWAYS AND WALKWAYS SHALL BE SWEPT CLEAN OF DEBRIS AND ACCUMULATED SEDIMENTS ON A REGULAR BASIS AT LEAST 4 TIMES A YEAR. ALL DEBRIS SHALL BE DISPOSED OF OFF SITE IN A MANNER PROSCRIBED BY LAW.
2. GUTTER CLEANING: ROOF GUTTERS SHALL BE MAINTAINED FREE OF SEDIMENT AND DEBRIS. IF GUTTER GUARDS OR SIMILAR DEVICES ARE INSTALLED THEY SHALL BE INSPECTED A MINIMUM OF TWICE A YEAR DURING SPRING AND FALL CLEANUP.
3. DRAIN MANHOLES: ALL BROKEN, LEAKING OR OTHERWISE DAMAGED STRUCTURES SHALL BE REPAIRED PROMPTLY UPON DISCOVERY. CATCHBASIN GRATES (DMH B) OR MANHOLE LIDS SHALL BE REPLACES WITH SIMILAR WEIGHT AND H20 LOADING CHARACTERISTIC REPLACEMENT PARTS.
4. SEDIMENT FOREBAYS: SEDIMENT FOREBAYS SHALL BE INSPECTED MONTHLY WITH ANY TRASH REMOVED AND CLEANED OF SEDIMENT/DEBRIS A MINIMUM OF 4 TIMES A YEAR. THE STONE CHECK DAM SHALL BE INSPECTED AND IF SEDIMENT HAS ACCUMULATED IN THE PORE SPACE OF THE DAM SO THAT IT DRAINS SLOWLY, THE STONE SHALL BE REPLACED WITH CLEAN DOUBLE-WASHED STONE. FOREBAY SHALL BE MOWED MONTHLY- NONE PROPOSED.
5. WATER QUALITY SWALES: WATER QUALITY SWALES SHALL HAVE ANY TRASH REMOVED AND MOWED MONTHLY. ANY SEDIMENT OR DEBRIS ACCUMULATING SHALL BE REMOVED ANNUALLY OR AS NEEDED. ANY AREAS OF EROSION SHALL BE REPAIRED WITH RE-SEEDING AS NECESSARY.
6. RAIN GARDENS: THE RAIN GARDENS SHALL BE INSPECTED MONTHLY WITH TRASH REMOVAL MONTHLY OR AS NECESSARY. VEGETATION MAY BE TRIMMED WITH A HAND-HELD WEED WHACKER OR STRING TRIMMER BEFORE GROWING SEASON COMMENCES IN THE SPRING WITH ALL DEBRIS REMOVED PRIOR TO THE GROWING SEASON. DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED ON AN ANNUAL BASIS AT THE APPROPRIATE TIME OF THE YEAR. INVASIVE PLANT SPECIES SHALL BE REMOVED MONTHLY DURING THE GROWING SEASON PER THE INVASIVE SPECIES CONTROL PLAN. NORMAL SPRING MAINTENANCE SHALL INCLUDE MULCHING, PRUNING/REMOVAL OF DEAD VEGETATION AND FERTILIZATION AN ORGANIC, LOW-NITROGEN FERTILIZER (DUE TO THE PROXIMITY TO THE WETLANDS). ALL WORK SHALL BE DONE BY HAND.
7. ROOF RECHARGE SYSTEM: THE ROOF RECHARGE SYSTEM SHALL BE INSPECTED A MINIMUM OF 2 X A YEAR. THE ROOF RECHARGE SYSTEM IS CRITICAL TO THE DRAINAGE DESIGN ON THE SITE. GUTTERS SHALL BE MAINTAINED AND INSPECTED QUARTERLY AT A MINIMUM AND WEEKLY DURING THE FALL SEASON OR AFTER A HEAVY WIND STORM WHEN THE POTENTIAL IS HIGHEST FOR DEBRIS ACCUMULATION. INSPECTION PORTS SHALL BE MONITORED TO ASSURE THAT THE SYSTEM DRAINS WITHIN 72 HOURS OF A STORM EVENT.
8. PEA GRAVEL INFILTRATION TRENCH: THE PEA GRAVEL INFILTRATION TRENCHES, AT THE EDGE OF THE PARKING AREAS, SHALL BE INSPECTED AND CLEANED 2X (TWICE) A YEAR DURING SPRING AND FALL CLEANUPS. ANY DEBRIS SHALL BE REMOVED AND IF ANY TREE SEEDLINGS ARE OBSERVED, THEY SHALL BE REMOVED. STONE SHALL BE REPLACED IF SEDIMENT IS OBSERVED AT OR NEAR THE TOP OF THE STONE.
9. MOWING SHALL OCCUR ONCE A MONTH DURING THE GROWING SEASON (OR AS NECESSARY) WITH THE MOWER BLADE SET FOR 3-4". IF GRASS FAILS TO THRIVE, PLANT AN ALTERNATIVE GRASS SPECIES.

NPDES GENERAL NOTES:

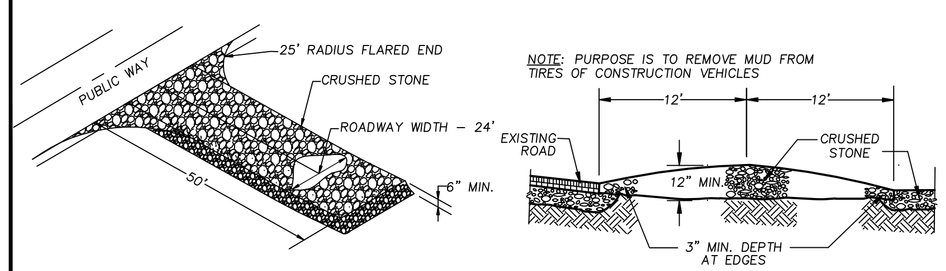
1. THIS PLAN IS INTENDED TO MEET THE REQUIREMENTS OF THE NATIONAL STORM WATER POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) OF SECTION 402 OF THE FEDERAL CLEAN WATER ACT. THE CONSTRUCTION OF DRIVEWAYS, PARKING AREAS, BUILDINGS AND APPURTENANT STRUCTURES WILL RESULT IN MORE THAN 1 ACRE OF TOTAL DISTURBED AREA, REQUIRING THE SUBMITTAL OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS SITE.
2. IT IS ANTICIPATED THAT THE SITE AS DESIGNED WILL MEET THE CRITERIA FOR A NPDES GENERAL PERMIT. THE SUBMISSION OF THE NPDES NOTICE OF INTENT (NOI), THIS PLAN AND SUPPORTING DOCUMENTATION MUST BE POSTMARKED A MINIMUM OF TWO (2) WEEKS PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE OR CONSTRUCTION.

NPDES RECORD REQUIREMENTS:

1. A COPY OF THE NPDES SUBMITTAL AND THIS PLAN MUST BE KEPT ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE MADE AVAILABLE TO ALL INTERESTED PARTIES.
2. RECORDS MUST BE MAINTAINED BY THE PERMITEE FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF STABILIZATION OF THE SITE. STABILIZATION OCCURS WHEN THE SITE HAS OVER 70% VEGETATIVE GROWTH AND/OR MECHANICAL STABILIZATION THROUGHOUT.

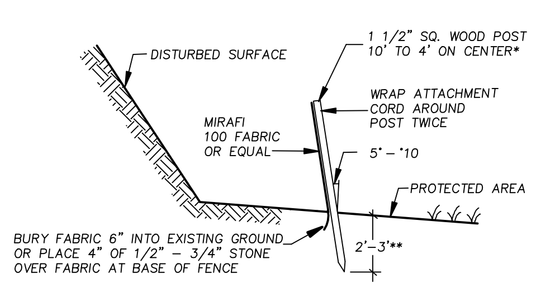
NPDES INSPECTION REQUIREMENTS:

1. ALL INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL, WHO SHALL PRODUCE WRITTEN QUANTITATIVE AND QUALITATIVE REPORTS ON THE METHODS, SUITABILITY OF STRUCTURES AND THE GENERAL CONSTRUCTION.
2. INSPECTIONS ARE REQUIRED DURING SITE ALTERATIONS A MINIMUM OF ONCE EVERY SEVEN (7) DAYS WHILE SURFACES ARE NOT STABILIZED.
3. INSPECTIONS ARE REQUIRED WITHIN 24 HOURS OF STORMS WHICH PRODUCE 0.5" OF PRECIPITATION OR GREATER.
4. WHEN THE SITE IS FULLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT MONTHLY INTERVALS FOR A PERIOD OF 3 YEARS.



NOTES:
1. REPLACE STONE & ACCUMULATED DEBRIS, MUD & ENTRAPPED MATERIALS AS IS NECESSARY TO PREVENT TRACKING ON PUBLIC ROADWAYS. REPLACE MONTHLY AS A MINIMUM REQUIREMENT.
2. DISPOSE OF STONE & ENTRAPPED MATERIALS IN A NON SENSITIVE AREA ON-SITE.
3. DO NOT REUSE STONE FOR SAME PURPOSE.
4. ALL TRAFFIC ENTERING / EXISTING SITE TO CROSS TEMPORARY CONSTRUCTION ENTRANCE

TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



* STEEL POST MAY BE SUBSTITUTED. DISTANCE BETWEEN POSTS TO VARY AS REQUIRED BY TRIBUTARY AREA: 10' FOR 100 SF/LF FENCE
6' FOR 500 SF/LF FENCE

** DEPTH TO VARY WITH TRIBUTARY AREA: 2' FOR 100 SF ETC.
IF POST IS TO BE SET IN PEAT OR UNSTABLE SOILS, THEN 3' OR DEPTH NECESSARY TO PROVIDE A STABLE POST FOR LOADED FENCE CONDITIONS

SILT FENCE DETAIL
NOT TO SCALE

EROSION & SEDIMENTATION CONTROL PLAN

GENERAL:

1. THIS PLAN IS PART OF A SET OF DOCUMENTS THAT ARE TO BE VIEWED AND REVIEWED IN THEIR ENTIRETY; SUCH DOCUMENTS INCLUDE THE CONSTRUCTION SPECIFICATIONS, CONSTRUCTION PLANS AND ANY PERMITS ISSUED BY THE TOWN OF GROTON, AGENTS OF THE TOWN OF GROTON OR OTHER REGULATORY AGENCIES.

2. THIS IS A PERFORMANCE SPECIFICATION WHICH THE CONTRACTOR SHALL APPLY APPROPRIATE MEANS AND METHODS TO ACHIEVE.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EROSION AND SEDIMENTATION ARE CONTROLLED. THIS PLAN SHALL BE SHALL BE ADAPTED TO FIT THE CONTRACTOR'S EQUIPMENT, WEATHER CONDITIONS, AND ANY ORDERS OF CONDITIONS ISSUED BY THE PLANNING BOARD, CONSERVATION COMMISSION AND ANY SPECIAL CONDITIONS ISSUED BY ANY OTHER REGULATORY AGENCY OF THE TOWN OF GROTON.

2. THE MOST IMPORTANT ASPECTS OF CONTROLLING EROSION AND SEDIMENTATION ARE LIMITING THE EXTENT OF DISTURBANCE AND STABILIZING SURFACES AS SOON AS POSSIBLE. OF SECONDARY IMPORTANCE IN EROSION CONTROL IS LIMITING THE SIZE AND LENGTH OF THE TRIBUTARY DRAINAGE AREA WITHIN THE WORK SITE AND DRAINAGE STRUCTURES. THESE FUNDAMENTAL PRINCIPLES SHALL BE THE KEY FACTOR IN THE CONTRACTOR'S CONTROL OF EROSION ON THE SITE.

3. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY DIVERSION SWALES AND SETTLING BASINS IN AREAS OF FUTURE CONSTRUCTION. RAIN GARDENS AND RECHARGE AREA SHALL BE PROTECTED FROM SOIL COMPACTION BY CONSTRUCTION VEHICLES. THESE AREAS MAY CONDITIONALLY BE USED AS TEMPORARY SETTLING BASINS EARLY IN THE CONSTRUCTION PHASES. SOILS SHALL BE OVER-EXCAVATED TO RESTORE THE INFILTRATION OF THE UNDERLYING SOILS PRIOR TO THE INSTALLATION OF THE PLANTING MEDIA. NO SEDIMENT SHALL BE ALLOWED TO COLLECT IN THE RAIN GARDEN UPON THE PLACEMENT OF THE PLANTING MEDIA UNTIL FULLY PLANTED AND STABILIZED.

4. ANY AREAS UTILIZED FOR TEMPORARY SETTLING BASINS SHALL BE OVEREXCAVATED TO RESTORE THE INFILTRATION CAPACITY OF THE UNDERLYING SOILS.

5. CONSTRUCTION IS PERMITTED BEYOND THE LIMIT OF DISTURBANCE ONLY WHEN ADDITIONAL DRAINAGE MEASURES OR STABILIZATION MEASURES ARE NEEDED, AND SHALL BE SUBJECT TO APPROVAL BY THE TOWN OF GROTON PRIOR TO WORK OUTSIDE OF DESIGNATED LIMIT OF DISTURBANCE LINE. THE LIMIT OF DISTURBANCE LINE SHALL BE THE EROSION CONTROL BARRIER. THE LIMIT OF CONSTRUCTION , ALSO LIMIT OF INVASIVE REMEDIATION, SHALL BE STRAW WATTLES PLACED AT THE EDGE OF WETLANDS OR PROPERTY LINE.

6. ALL DISTURBED SURFACES SHALL BE STABILIZED A MINIMUM OF 14 DAYS AFTER CONSTRUCTION IN ANY PORTION OF THE SITE HAS CEASED OR IS TEMPORARILY HALTED, UNLESS ADDITIONAL CONSTRUCTION IS INTENDED TO BE INITIATED WITHIN 21 DAYS. STOCKPILES SHALL BE COVERED OR SIMILARLY STABILIZED AT THE END OF EACH WORK DAY.

7. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION CONTROL DEVICES ON SITE. ALL EROSION CONTROL DEVICES SHALL BE REGULARLY INSPECTED. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES ½ TO ⅓ HEIGHT OF THE EROSION CONTROL BARRIER. ANY SEDIMENTS REMOVED FROM THE CONTROL DEVICES SHALL BE DISPOSED OF OUTSIDE OF THE 100' WETLANDS BUFFER ZONE.

8. AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER SENSITIVE AREAS (WETLANDS, OFF-SITE AREAS AND DRAINAGE SYSTEMS). ANY RUNOFF FROM DISTURBED SURFACES SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING ANY SENSITIVE AREAS.

PRELIMINARY SITE WORK:

1. MATERIAL REMOVED SHOULD BE STOCKPILED, SEPARATING THE TOPSOIL FOR FUTURE USE. ON THE SITE, EROSION CONTROLS SHALL BE UTILIZED ALONG THE DOWN SLOPE SIDE OF THE PILES IF THE PILES ARE TO REMAIN MORE THAN THREE WEEKS OR SUBJECT TO EROSIVE CONDITIONS SUCH AS INTENSE RAIN, WIND OR OTHER EXPOSURE.

2. TOPSOIL FROM AREAS CONTAINING INVASIVE SPECIES INCLUDING JAPANESE KNOTWEED, HONEYSUCKLE, MULTIFLORA ROSES OR BITTERSWEET SHALL BE REMOVED FROM THE SITE.

3. FOR TREATMENT OF TOPSOIL CONTAINING INVASIVE PLANT SPECIES, SEE SHEET C-1.1.

4. STOCKPILES SHALL BE LOCATED AS SPECIFIED HEREIN AND AS REQUIRED. SHOULD ADDITIONAL AREAS BE NEEDED THEY SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE IN AREAS OF MINIMAL IMPACT. IF A STOCKPILE IS LOCATED ON A SLOPE, THE RUNOFF SHALL BE DIRECTED AWAY FROM THE PILE.

5. IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL HAYBALE DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.

6. IF THE SITE CONSTRUCTION OCCURS AT ANY TIME OTHER THAN THE MAY – NOVEMBER CONSTRUCTION SEASON, THE SITE DRAINAGE SYSTEM SHALL BE INSTALLED, MAINTAINING HYDRAULIC CAPACITY, PRIOR TO ANY ROUGH GRADING IN THE BUFFER ZONE.

DRAINAGE SYSTEM:

1. THE DRAINAGE SYSTEM SHALL BE INSTALLED FROM THE DOWNSTREAM END UP.

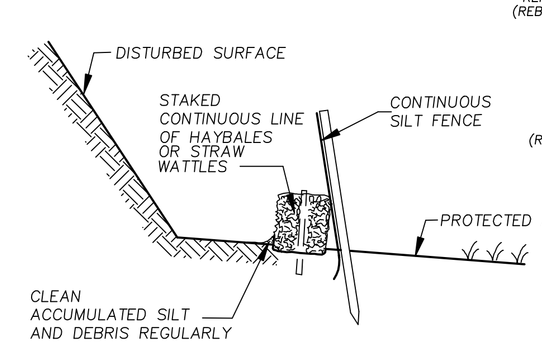
2. A SILT FENCE SHALL BE INSTALLED AT THE OUTFALL OF ALL TEMPORARY BASINS AND SWALES. IT SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY AREAS ARE STABILIZED.

3. WATER SHALL NOT BE ALLOWED TO ENTER PIPES FROM UN-STABILIZED SURFACES. SILT FENCE SHALL BE MONITORED, CLEANED & REPLACED AS NEEDED ON A REGULAR BASIS. SEE NPDES SWPPP REQUIREMENTS, IF APPLICABLE.

4. TRENCH EXCAVATIONS SHALL BE LIMITED TO THE MINIMUM LENGTH REQUIRED FOR DAILY PIPE INSTALLATION. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE. THE ENDS OF PIPES SHALL BE CLOSED NIGHTLY WITH PLYWOOD AND BACKER BOARD.

5. IF UNSTABLE AREAS ARE ENCOUNTERED DUE TO NATURAL SPRINGS OR GROUNDWATER BREAKOUT, INTERCEPTOR DRAINS SHALL BE INSTALLED TO DIRECT THE RUNOFF INTO THE DRAINAGE SYSTEM, SEE DETAILS.

6. IT IS IMPORTANT THAT THE BINDER COURSE, WITH BERMS (AS SHOWN), BE INSTALLED ON THE LIMITS OF THE PARKING LOT AND ACCESS ROADS AS SOON AS FEASIBLE, AS THESE AREAS WILL FUNCTION AS A CONDUIT FOR RUNOFF.



SILTATION BARRIER
NOT TO SCALE

INSTALLATION OF UTILITIES:

1. CARE SHALL BE TAKEN TO ASSURE THAT THE UTILITY TRENCHES DO NOT CHANNELIZE RUNOFF TOWARDS EXISTING STREETS OR OTHER OFF-SITE AREAS.

2. THE INSTALLATION OF SUBSURFACE UTILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.

3. TRENCH EXCAVATIONS SHALL BE LIMITED TO THE MINIMUM LENGTH REQUIRED FOR DAILY UTILITY INSTALLATION. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE.

LANDSCAPING:

1. LANDSCAPING SHALL OCCUR AS SOON AS POSSIBLE TO PROVIDE PERMANENT STABILIZATION OF DISTURBED SURFACES.

2. CONTRACTOR SHALL UTILIZE A VARIETY OF SLOPE STABILIZATION METHODS AND MATERIALS WHICH SHALL BE ADJUSTED TO THE SITE CONDITIONS. EROSION CONTROL BLANKETS OR MIRAFI MIRAMAT (OR SIMILAR PRODUCTS) SHALL BE AVAILABLE ON SITE.

3. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH HAY, TACKIFIED WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.

4. A MINIMUM OF 6" TOPSOIL SHALL BE PLACED AND ITS SURFACE SMOOTHED TO THE SPECIFIED GRADES.

5. SEED APPLICATIONS SHALL BE IN ACCORDANCE WITH THE GRASS AND SLOPE COVER SPECIFICATIONS.

PRE-CONSTRUCTION:

1. AN EROSION CONTROL BARRIER (SEE SHEET C-3) SHALL BE INSTALLED AS DEPICTED ON THE SITE PLAN, BETWEEN THE AREAS TO BE DISTURBED AND WETLAND AREAS. THIS BARRIER SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY SURFACES HAVE BEEN FULLY STABILIZED. THE EROSION CONTROL BARRIERS AS SHOWN ON THE SITE PLAN ARE THE MINIMUM REQUIRED TO PROTECT THE ON & OFF-SITE DRAINAGE SYSTEMS.

2. PHOTOGRAPHS AND/OR VIDEO IMAGES OF THE PRE-CONSTRUCTION CONDITION OF THE SITE AND SURROUNDING AREAS, ESPECIALLY THE ADJACENT STREETS SHALL BE TAKEN, DEVELOPED AND DATED. A COPY OF THESE MATERIALS SHALL BE SUBMITTED TO THE COMMISSION AND OWNER FOR THEIR FILES. THESE PICTURES AND IMAGES SHALL REFERENCE EXISTING SITE CONDITIONS AND PERMANENT REFERENCE MARKS TO ENABLE RECOGNITION OF THE AREA BEING PHOTOGRAPHED, AND SHALL REPRESENT A COMPREHENSIVE VIEW OF THE SITE PRIOR TO DEVELOPMENT.

3. THE CONTRACTOR SHALL ESTABLISH A STAGING AREA ON A PORTION OF THE AREA TO BE DISTURBED FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS. THE STAGING AREA SHALL BE OUTSIDE OF THE 100' WETLANDS BUFFER ZONE.

4. IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO: HAYBALES, SILT FENCE AND CRUSHED STONE.

5. A TEMPORARY STONE CONSTRUCTION ENTRANCE IS REQUIRED TO PREVENT TRACKING OF SILT, MUD, ETC. ONTO EXISTING ROADS. THE STONE SHALL BE REPLACED REGULARLY AS WELL AS WHEN THE STONE IS SILT LADEN OR EQUIPMENT IS OBSERVED TO BE TRACKING SOIL ONTO THE ROADWAYS.

6. THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL ON SITE AND SHALL UTILIZE EROSION CONTROL MEASURES WHERE NEEDED, REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED HEREIN, ON THE PLAN OR IN ANY ORDER OF CONDITIONS.

GENERAL CONSTRUCTION REQUIREMENTS:

1. ANY REFUELING OF CONSTRUCTION VEHICLES AND/OR E